

## 10G GPON ONU BOSA(2.5G1270nmTX 10G1577nmRX)

### Features:

- ◆ Coaxial Package
- ◆ InGaAsP/InP MQW-DFB Laser Diode
- ◆ Low threshold, high slope efficiency and high output power
- ◆ Operating Case Temperature: 0°C to +70°C
- ◆ High channel isolation
- ◆ Low return loss
- ◆ Optional with Isolator

### Applications:

- ◆ GPON ONU side
- ◆ Long distance digital transmission system
- ◆ Cable television system
- ◆ WDM systems

### Absolute Maximum Ratings:

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	Tstg	-40	85	°C
Operating Case Temperature	Topr	0	70	°C
Reverse Voltage(LD)	V <sub>RL</sub>	---	2	V
Reverse Voltage(PD)	V <sub>RD</sub>	---	20	V
Photodiode Forward Current(PD)	I <sub>FD</sub>	---	2	mA
LD Direct Forward Current	I <sub>FL</sub>	---	150	mA
Lead Soldering (Temperature)/(Time)	---	---	260/10	°C/Sec

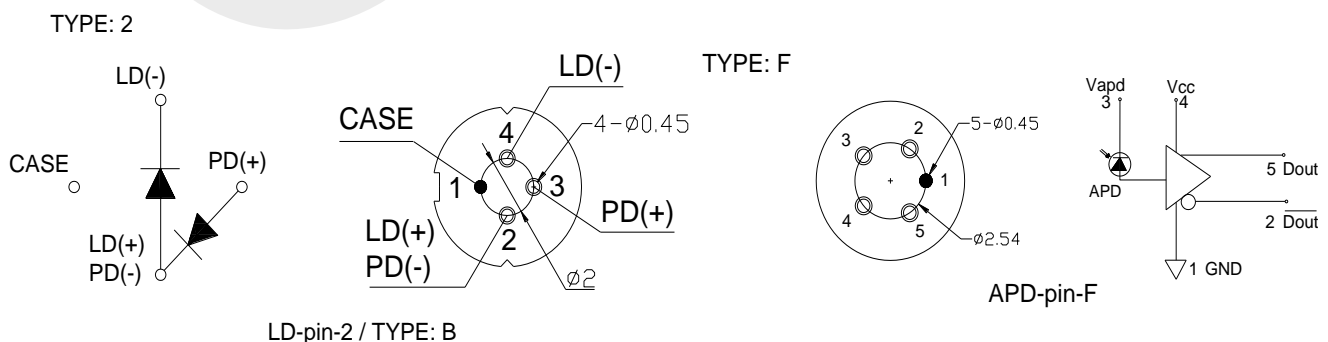
## Electrical and Optical Characteristics – Transmitter:

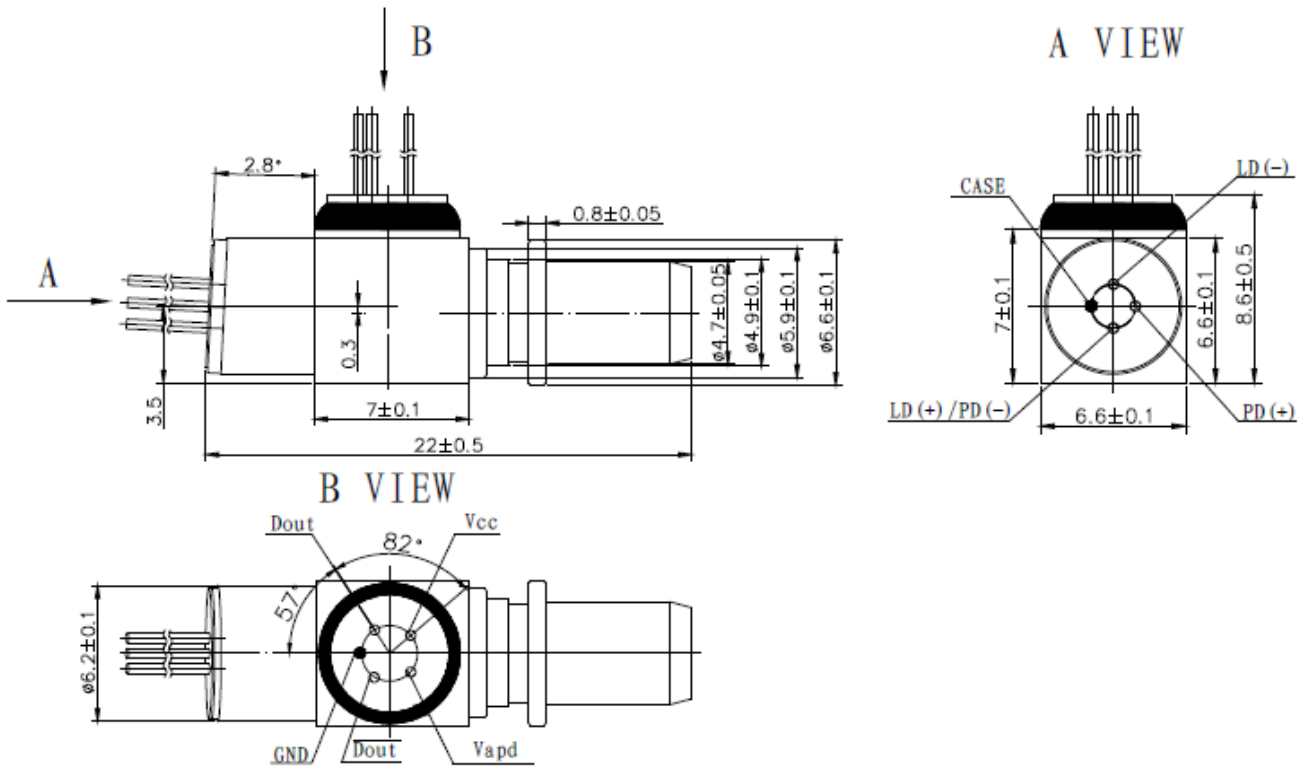
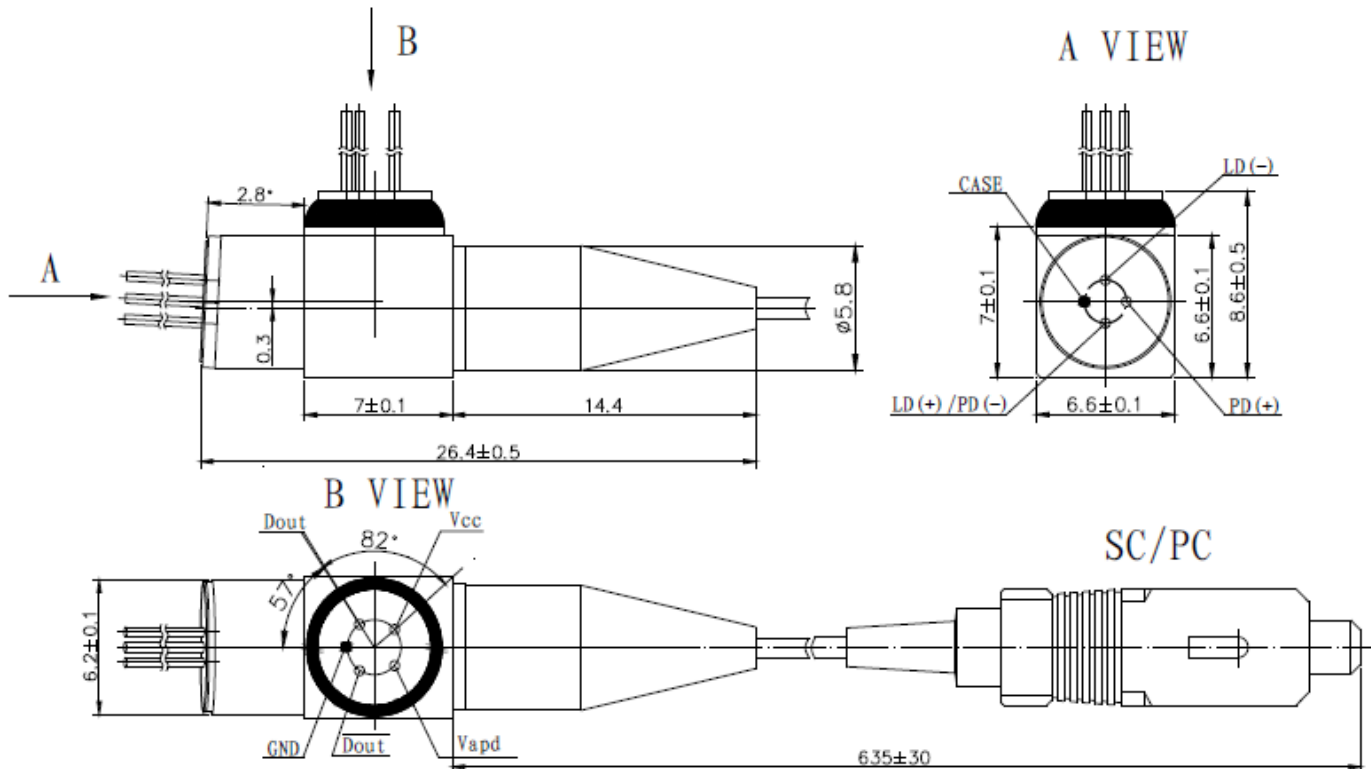
Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Output Optical Power	Pf	2	---	---	mW	CW, I <sub>op</sub> =I <sub>th</sub> +20mA, T <sub>c</sub> =25°C
Threshold Current	I <sub>th</sub>	---	7	15	mA	at T <sub>c</sub> =25°C
Peak Wavelength	λ <sub>p</sub>	1260	1270	1280	nm	T <sub>c</sub> =25°C
Side Mode Suppression Ratio	SMSR	35	40	---	dB	CW, T <sub>c</sub> =0~85°C
Operating Voltage	V <sub>op</sub>		1.1	1.5	V	CW, I <sub>op</sub> =I <sub>th</sub> +20mA,
Monitor Current	I <sub>m</sub>	0.1	---	1.0	mA	CW, I <sub>op</sub> =I <sub>th</sub> +20mA,
Monitor Dark Current	I <sub>d</sub>	---	---	0.1	μA	V <sub>RD</sub> =5V
Rise/Fall Time	T <sub>r</sub> /T <sub>f</sub>	---	0.08	0.12	ns	20%~80%
Tracking Error	TE	-1.5	---	1.5	dB	I <sub>op</sub> =I <sub>th</sub> +20mA,
Optical Isolation	I <sub>so</sub>	30	---	---	dB	Single Stage

## Electrical / Optical Specifications – Receiver:

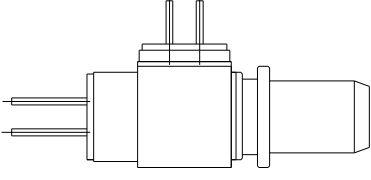
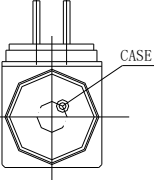
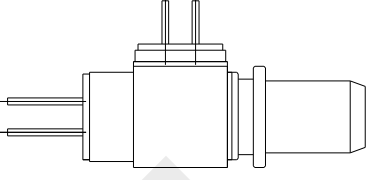
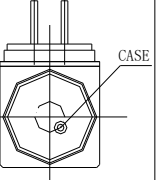
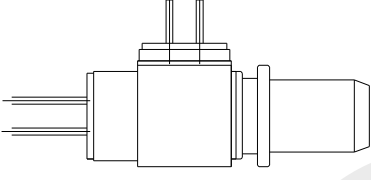

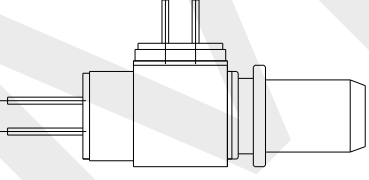
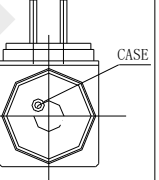
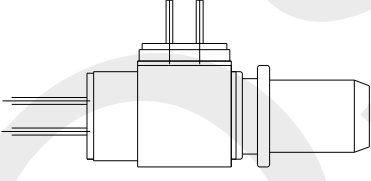
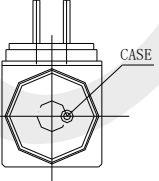
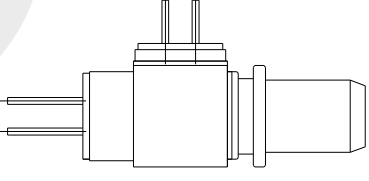
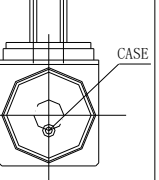
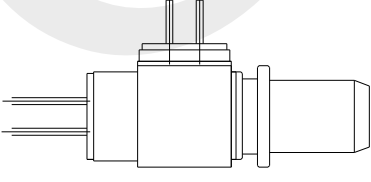
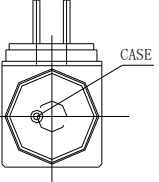
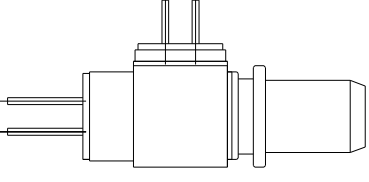
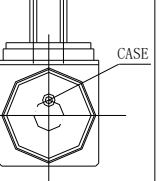
Description	Symbol	Min.	Typ.	Max.	Unit	Note
Operating Wavelength	λ	1575	1577	1580	nm	
Supply Voltage	V <sub>cc</sub>	3.0	3.3	3.6	V	
Supply Current	I <sub>cc</sub>	40	55	70	mA	
Break-down Voltage	V <sub>br</sub>	25	34	40	V	I <sub>d</sub> =10μA
APD Responsivity	R	0.65	---	---	A/W	M=1, V <sub>R</sub> =10V
Sensitivity	Sen	---	---	24	dBm	10G, PRBS2 <sup>31</sup> -1, BER=10 <sup>-12</sup> , ER≥9dB
Optical Isolation From External Source	ISO	30	---	---	dB	λ= 1310/1490/1550nm
Optical Crosstalk From Internal Laser	X <sub>opt</sub>	---	-45	-40	dB	

## Pin Assignment:



**Package Dimension:**
**RBIDI-SC/PC**

**PBIDI-SC/PC**


**TX Pin Order Code:**

Launch			
			
Case direction		A Type	
			
Case direction		B Type	
			
Case direction		C Type	
			
Case direction		D Type	
			
Case direction		E Type	
			
Case direction		F Type	
			
Case direction		G Type	
			
Case direction		H Type	

RX Pin Order Code:

Receive							
Case direction		A Type		Case direction		B Type	
Case direction		C Type		Case direction		D Type	
Case direction		E Type		Case direction		F Type	
Case direction		G Type		Case direction		H Type	

## Nomenclature:

OSMBIDI-

A B C D E F G H I J

Code	Parameter	Detailed Description							
A	Laser Type	D=DFB LD							
B	Launch Wavelength	A=1270							
C	Launch Data Rate	1=2.5G							
D	Output Power	A=0.5~0.99		B=1~1.59mW			C=1.6~2.99mW		
E	Receiver Wavelength	H=1577							
F	Receiver Data Rate	T=10G							
G	Connector	R= RBIDI-SC/PC				L= PBIDI-SC/PC			
H	TX Pin Package Direction	A	B	C	D	E	F	G	H
I	RX Pin Package Direction	A	B	C	D	E	F	G	H
J	Isolator	G=with I							

## Precaution:

- (1) The modules should be handled in the same manner as ordinary semiconductor devices to prevent the electro-static damages. For safe keeping and carrying, the modules should be packaged with ESD proof material. To assemble the modules on PCB, the workbench, the soldering iron and the human body should be grounded.
- (2) Please pay special attention to the atmosphere condition because the dew on the module may cause some electrical damages.
- (3) Under such a strong vibration environment as in automobile, the performance and reliability are not guaranteed.

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